

IN THE CLAIMS**1. – 4. (canceled)**

5. (previously presented) A router for automatically generating an IP address comprising a position identifier portion and an interface identifier portion, said router comprising:

a routing table for storing each position identifier portion and information on an output route for the position identifier portion;

a determining unit for determining for each of a plurality of ports whether a position identifier portion is assigned to a network to which the port is connected;

a position identifier portion generating unit for referring to said routing table and generating a position identifier portion different from the position identifier portion registered in said routing table for a port not assigned a position identifier portion;

a routing unit for receiving routing information including a position identifier portion according to a dynamic routing protocol and registering the routing information in said routing table, and registering routing information including the position identifier portion generated by said position identifier portion generating unit in said routing table and notifying another router of the routing information; and

a position identifier portion advertising unit for advertising the generated position identifier portion from the port,

wherein said IP address is an IPv6 aggregatable unicast global address; and

said position identifier portion generating unit generates an SLA value of least significant 16 bits different from SLA values of least significant 16 bits of all position identifier portions

registered in said routing table, said position identifier portions having most significant 48 bits identical with most significant 48 bits assigned to the router, and generates said position identifier portion by combining the SLA value with the most significant 48 bits.

6. (previously presented) A router for automatically generating an IP address comprising a position identifier portion and an interface identifier portion, said router comprising:

a routing table for storing each position identifier portion and information on an output route for the position identifier portion;

a determining unit for determining for each of a plurality of ports whether a position identifier portion is assigned to a network to which the port is connected;

a position identifier portion generating unit for referring to said routing table and generating a position identifier portion different from the position identifier portion registered in said routing table for a port not assigned a position identifier portion;

a routing unit for receiving routing information including a position identifier portion according to a dynamic routing protocol and registering the routing information in said routing table, and registering routing information including the position identifier portion generated by said position identifier portion generating unit in said routing table and notifying another router of the routing information; and

a position identifier portion advertising unit for advertising the generated position identifier portion from the port,

wherein said IP address is an IPv6 site-local address; and

said position identifier portion generating unit generates a subnet ID of least significant 16 bits different from subnet IDs of least significant 16 bits of all position identifier portions registered in said routing table, said position identifier portions having most significant 48 bits identical with most significant 48 bits set fixedly, and generates said position identifier portion by combining the subnet ID with the most significant 48 bits.

7. (canceled)